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The Influence of Cognitive Dimensions on the Consumer-SME Relationship: A Sustainability-Oriented View

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Abstract: While companies are investing increasingly in sustainability measures, the effects of firms' sustainability actions on consumer perceptions should not be taken for granted and deserve to be investigated. By adopting the interpretative lens of consumer culture theory, this paper defines a set of cognitive dimensions which can describe consumer perceptions of sustainability actions and the behaviors of small–medium enterprises (SMEs), with the aim of identifying the relationships between firms' sustainability actions and the economic performance of SMEs. To this extent, the cognitive dimensions proposed by Green & Petre (1996) are re-elaborated to define a set of customer cognitive dimensions in the sustainability domain (resilience, wholeness, mapping, coding, and engagement). Thus, the relationships between SMEs' sustainability actions and behaviors, the defined cognitive influencers and SME performance is empirically tested. In particular, a survey of a sample of 1137 customers of 175 Italian SMEs is analyzed using structural equation modelling (SEM). The findings show that the adoption of certain sustainability actions influences consumer perceptions, which in turn impacts the economic performance of SMEs.

Keywords: sustainability; consumer culture theory; cognitive dimensions; SMEs; structural equation modelling

1. Introduction

In recent decades, the relationships between consumers and firms have been influenced by several socioeconomic trends such as globalization, new information technologies and increasing environmental sensitivity [1,2]. Such trends have been analyzed by adapting old theoretical approaches within more flexible frameworks [3,4] in order to take the sociological and psychological dimensions of customers into account [5–7].

Sustainability has become one of these flexible frameworks [8]. As highlighted by [9], over the last twenty years, an increasing number of contributions have been provided which refer to the approach of firms to sustainability. Most of these contributions have focused on the interactive and communicative dimensions of sustainability [10], and on the associated phenomena of green advertising and green washing [11]. Moreover, several studies have investigated the current influence of firms' attention to sustainability issues on economic performance and increases of market share [12,13].

Nevertheless, as underlined by [14], a wider and shared framework, which is able to incorporate the cognitive dimensions of customers in order to explain the factors that affect consumers' (behavioral) reactions to firms' sustainable actions and strategies, still appears to be missing. According to [15],

social studies are characterized by a vagueness regarding the elements which can affect consumer perceptions of firms' strategies and products. The state of knowledge clarifies the relevance of cognitive dimensions as a complex of conditions which can affect human perceptions, ideas, and behaviors. However, a few elements are provided with reference to the way in which they can be understood, measured, and classified, with several implications for our daily life. Accordingly, the following Figure 1 exemplifies in which way cognitive dimensions affect our approach to sustainability showing that only if we understand that sustainability must be a shared aim we can effectively manage it.

Figure 1. A vignette explaining the roles of cognitive dimensions in affecting our approach to sustainability.

As exemplified in Figure 1, life is affected by multiple dimensions related to our perceptions, to interactions with others and to the elements subjectivity considered as relevant. However, there are neither data nor models to evaluate all these elements in a suitable way.

To bridge this gap, this paper defines a set of cognitive dimensions which can describe consumer perceptions of the sustainability actions and behaviors of small–medium enterprises (SMEs), with the aim of identifying the relationships between firms' sustainability actions and the economic performance of SMEs. The undertaking of sustainability actions by firms should also be strategically evaluated based on the prediction of customer perceptions and the related impact (positive, null, or negative) on expected revenues.

Among such initiatives, the following factors can be considered: firms' participation in sustainability organizations, the provision of advertising based on sustainability, the use of updated web pages or other means of communication for sharing sustainability information such as social reports, strategies, the numbers of sustainability projects and plans, and the involvement of customers in firms' sustainability actions and strategies.

In summary, this paper supports the idea that the role of sustainability in affecting the relationship between firms and consumers cannot be considered to be only a conceptual assumption, but that it is supported by concrete evidence [16].

Using the conceptual framework provided by the consumer culture theory (CCT) [17], the taxonomy of cognitive dimensions proposed by [18] has been used to define a set of cognitive influencers of consumer perceptions of firms' sustainability actions and behaviors.

Thus, the relationships between SMEs' sustainability actions and behaviors, the defined cognitive influencers, and SMEs' performance, are empirically tested. In particular, a survey of a sample of 1137 customers of 175 Italian SMEs is analyzed using structural equation modelling (SEM).

This paper is structured as follows: in Section 2, the theoretical background is presented, and the research hypotheses are derived; in Section 3, the research method is described and the analyzed data are summarized; in Section 4, the results are presented; and in Section 5 discussions, conclusions and possible future research directions are presented.

2. Theoretical Background and Development of Hypotheses

2.1. The Need for Cognitive Dimensions in Sustainability Studies

Since the mid-20th century, the domain of sustainability has extended its boundaries [19,20]. Starting with the preliminary environmental-based contributions on the relevance of sustainability [21,22], researchers and practitioners have progressively recognized the importance of social and economic dimensions for the definition of effective approaches by firms to sustainability [23,24]. Building upon Elkington's model [25], several studies have analyzed and demonstrated the benefits for firms of employing a strong focus on sustainability issues [26], providing empirical evidence of the ways in which firms' engagement in sustainability actions and plans can influence the perceptions and shopping behaviors of customers [27–29]. Numerous models have been formalized to establish the relevance that the three dimensions of sustainability—the economy, environment, and society—should have in firms' plans and actions in order to maximize the firms' economic performance [30].

Despite the advancements in knowledge provided by the aforementioned contributions, these seem only to adopt a firm-based perspective, without considering the ways in which firms' actions and plans are perceived by consumers, and without focusing on the dimensions that influence consumer evaluations of firms' sustainability actions. With such a perspective, given the multiple definitions provided regarding sustainability and sustainable development [31], and according to [32], the need to extend the study of the relationships between firms and consumers in the context of sustainability clearly emerges, with the further aim to take into account the cognitive dimensions of consumers as key determinants in affecting market relationships [33–35].

Following this logic, this paper employs the interpretative lens of CCT to investigate consumer perceptions and reactions to firms' sustainability actions and behaviors.

2.2. A Brief Literature Review on Customers' Cognitive Dimensions and Subsequent Market Relationships

CCT is a research stream that "explores the heterogeneous distribution of meanings and the multiplicity of overlapping cultural groupings that exist within the broader socio-historic frame of globalization and market capitalism" [17]. Thus, CTT clarifies the relevant role of consumers and their cognitive dimensions in defining market relationships in every kind of social and economic domain [36,37].

Following previous studies of consumer behavior, the relevance of cognitive dimensions in addressing consumer purchases which overcome customer rationality is clear [38,39]. Consumers tend to buy products or services because of their emotions, the influence of brand image, and their trust in firms' strategies [40–42]. By adopting the interpretative lens provided by CCT, ref. [17] underlined the need to consider the market as "a fairly homogenous system of collectively shared meanings, ways of life, and unifying values shared by a member of society" (p. 869). Furthermore, ref. [43] stated that in order to study the market and market relationships, there is a need to investigate "popular culture", because it can be considered as "an important source of information for the purpose of consumer research" (p. 586). Moreover, ref. [44] underlined the relevance of consumer evaluations of firms' strategies or behaviors and of the consistency of firms' actions with respect to "their changing identities or life goals" (p. 862). Additionally, ref. [45], focusing on consumer perceptions, emphasized the role of firms' brands, stating that their value depends on their ability "to create identity value through consensus symbol of that culture" (p. 191).

2.3. Bringing Customers' Cognitive Dimensions and Sustainability Together

From the aforementioned contributions, the relevant role of studies involving CCT and the analysis of consumers' cognitive dimensions in defining the dynamics of market relationships clearly emerges [46]. After recognizing the validity of this position, a relevant challenge is to investigate the ways in which cognitive dimensions affect consumer behavior and perceptions in relation to firms' sustainability actions. With the aim of facing this challenge, a possible contribution can be derived from the study of [47] about cognitive dimensions in terms of the levels through which they affect human behavior. However, despite the recognized relevance of Bloom's taxonomy in several research fields, it proposed only a few observations about the influences of cognitive dimensions on consumer behavior and perceptions [48]. Nevertheless, by following his taxonomy, several authors have tried to build new frameworks for defining consumer behavior [49]. For instance, several authors have underlined the difference between automatic and controlled cognitive processes [50] and some of them have analyzed lower- and higher-order affective reactions related to higher-order cognitive processes such as thinking, reasoning and consciousness [51].

In line with these studies, several studies demonstrated that cognitive dimensions impact consumer perceptions, defining their decision-making process [52] and multiple authors have underlined the role of cognitive dimensions as determinants of consumer decision-making [53]. Moreover, the importance of consumer mindset is recognized by several research streams [51]. Following these reflections, with the aim of extending previous studies about the relationships between firms and customers in the context of the sustainability domain, the role of cognition in the effectiveness of eco-efficiency has been explained and it has been clarified that the ways in which the society manages the "abandonment of nature" or the "rebound-effect" depend on the existence of shared cognitive dimensions which are able to influence the behavior of consumers as well as of firms [53]. From a different perspective, thanks to the analysis method based on cognitive maps has been demonstrated that cognitive dimensions influence individual perception about sustainable development [54] and it has been stated that cognitive dimensions define the ways through which the market provides a meaning to reality (and then to the role of firms in reality, also from a sustainability point of view) [55]. More pointedly, it emerges that cognitive dimensions are a key pillar and act to "facilitate interaction and create opportunities for discussion between people who bring with them different patterns of thinking, mindsets and practical viewpoints with regard to sustainability" [56].

2.4. Proposal of a Taxonomy of Cognitive Dimensions within the Conceptual Domain of Sustainability

Having recognized the relevance of cognitive dimensions in affecting individual perceptions of the external world, and their role in influencing the ways in which consumers react to firms' sustainability actions and strategies, a taxonomy of the cognitive dimensions of consumers is proposed with specific reference to sustainability.

By adopting the taxonomy of [18], this paper proposes to study consumer perceptions and behavior by considering firms' sustainability actions as external phenomena. Accordingly, a review of Green & Petre's taxonomy is reported in the following Table 1, with the aim of linking the related cognitive dimensions to the conceptual domain of sustainability.

Table 1. Review of Green & Petre's Taxonomy of Cognitive Dimensions within the conceptual domain of sustainability (source: authors' elaboration).

Green & Petre's Taxonomy of Cognitive Dimensions [18]	Original Definition [57]	Link to the Domain of Sustainability	Consumers' Cognitive Dimensions in Sustainability Framework
Viscosity	"Resistance to change: the cost of making small changes" (p. 12)	It defines the difficulty for consumers to change their previous ideas and opinions on a firm's behavior and image. Consequently, it defines the difficulty for consumers to accept and understand a firm's actions in the domain of sustainability if they are not supported by previous behavior and/or strategies.	Resilience
Hidden dependencies	"Relationship between two components such that one of them is dependent on the other, but that the dependency is not fully visible" (p. 17)	It defines the capabilities of consumers to include companies' behavior in their mental representation of the world. It represents the consumers' ability to connect firms' sustainability actions and behaviors to a personal definition of sustainability, and to the individual level of relevance for each dimension of sustainability.	
Visibility	"Ability to view components easily" (p. 34)	It defines the possibilities for the consumer to evaluate different firms' behaviors and decisions simultaneously. In such a view, it defines the ability of consumers to evaluate the coherence of firms' actions and strategies with respect to the domain of sustainability.	Wholeness
Abstraction gradient	"Class of entities, or a grouping of elements to be treated as one entity, either to lower the viscosity or to make the notation more like the user's conceptual structure" (p. 24)	It indicates the capabilities of consumers to abstract themselves from daily action to evaluate all processes in an objective way. Accordingly, it defines the ability of consumers to evaluate firms' sustainability actions without considering personal engagement and/or commitment.	
Role expressiveness	"The purpose of a component (or an action or a symbol) is readily inferred" (p. 41)	It is related to the consumers' ability to easily understand how different firms' behaviors are related, and what their relationships are with the concept of sustainability.	
Consistency	"Similar semantics are expressed in similar syntactic forms" (p. 39)	It defines the way in which consumers understand a firm's proposal building upon its previous experience and knowledge. It defines the possibility for consumers to understand firms' sustainability actions using a "common language".	Mapping
Closeness of mapping	"Closeness of representation to domain" (p. 39)	It defines the distance between a firm's behavior and the image that a consumer has of them self. Considering that sustainability can have different meanings for each market actor because of their personal view of reality, this dimension defines the distance between consumers' and firms' ideas about sustainability.	
Progressive evaluation	"Work-to-date can be checked at any time" (p. 40)	It defines the relevance of partial or past interactions with firms in consumers' decisions about their subsequent behavior. Accordingly, the consumer evaluations of firms' sustainability actions are evaluated continuously through a progressive process that requires an investment of time and resources by the consumer.	Coding
Error-proneness	"Notation invites mistakes" (p. 40)	It measures the risk to consumers to misunderstand a sustainable firm's behavior. It defines the risk to firms that their sustainability actions and behaviors are not correctly understood by the market because of information asymmetry or cognitive misalignment.	
Diffuseness	"Verbosity of language" (p. 39)	It measures the amount of information needed to support consumers in understanding a firm's behavior. Accordingly, it defines the total amount of data that firms should share with the market to ensure their sustainability actions and behaviors.	
Premature commitment	"Constraints on the order of doing things force the user to make a decision before the proper information is available" (p. 21)	It defines the amount of information that consumers can use to evaluate firms' actions. It can be considered a measure of the consumers' willingness to positively evaluate firms' behaviors and actions without having the required information.	

Table 1. *Cont.*

Green & Petre's Taxonomy of Cognitive Dimensions [18]	Original Definition [57]	Link to the Domain of Sustainability	Consumers' Cognitive Dimensions in Sustainability Framework
Secondary notation	"Extra information carried by other means than the official syntax" (p. 29)	It regards the impact of the informal communication of firms on a consumer's behavior and decisions. It defines the relevance of firms' voluntary disclosure in affecting consumers' views about firms' engagement in sustainability actions and behaviors.	Engagement
Hard mental operations	"High demand on cognitive resources" (p. 40)	It is related to the commitment required from the consumer to understand a firm's behavior. Accordingly, it defines the total amount of resources required from the consumers to have a whole view about firms' actions and strategies in the domain of sustainability.	
Provisionality	"Degree of commitment to actions or marks" (p. 41)	It represents the levels of consumers' engagement in firms' sustainability actions and behaviors. It can be considered a measure of the consumers' willingness to actively participate in firms' sustainability plans.	

2.5. Hypotheses Development

Building upon Green & Petre's taxonomy, a set of five cognitive dimensions (resilience, wholeness, mapping, coding, and engagement) has been defined as relevant for an explorative study about the way in which consumers' cognitive frameworks affect their perceptions and behaviors with respect to firms' sustainability actions.

By considering these dimensions, it can be stated that the impact of firms' sustainability actions on consumer behavior depends on the consumers' ability and willingness to accept them as coherent with respect to their personal views of reality (resilience). Consistent with this view, ref. [58] stated that firms' sustainability actions and behaviors are easily accepted by the market if they are supported by the firms' engagement in formalized and structured organizations in the field of sustainability. Similarly, ref. [59] showed that firm participation in shared and well-known plans and organizations in the field of sustainability increases the opportunity for consumers to positively evaluate firms' sustainability actions. Considering that a firm's participation in sustainability actions reduces the level of consumer resilience in the evaluation of the firm's sustainability actions and behaviors, this paper proposes the following hypothesis:

Hypothesis 1 (H1). *There is a positive relationship between firms' participation in sustainability actions and consumer evaluations of firms' sustainability actions and behaviors.*

From a different perspective, the consumer evaluations of firms' actions in the domain of sustainability from a cognitive point of view can also be a result of consumers' ability and willingness to evaluate the firms' strategies and plans in a holistic view (wholeness). Ref. [60] underlined the relevance of firms' attention to sharing information about their strategies and behaviors as ways to influence consumer perspectives. Furthermore, ref. [61] affirmed that the adoption of voluntary disclosure instruments such as social reports is an efficient way to support consumers in building a complete view of firms' strategies, and their relationships with the sustainability pillars. After recognizing the validity of these positions, and stating that firms' sharing of social reports or equivalent documents increases the level of consumers' wholeness, we additionally investigate the following hypothesis:

Hypothesis 2 (H2). *There is a positive relationship between firms' sharing of social reports or equivalent documents, and consumer evaluations of firms' sustainability actions and behaviors.*

Following the proposed reflections, it is also recognized that, in the light of the multidimensionality of the sustainability domain, consumer evaluations of firms' sustainable actions and behaviors also depends on the ability of consumers to correctly understand the meaning of firms' actions, and to connect them

to their individual scheme of evaluation (mapping). With such a logic, ref. [62] suggested that consumer evaluations of firms' sustainability actions are more related to the opportunities for consumers to link them to known processes than to the actions themselves. Additionally, ref. [63] emphasized the role of advertising as a useful instrument for supporting consumers in affecting their understanding of firms' engagement in the sustainability domain, while ref. [64] showed that advertising in the sustainability domain has the power to support consumers in understanding firms' actions using a language that is known to the consumers. Accordingly, by recognizing that firms' propositions of sustainability-based advertising support consumers in identifying clear links between their views of sustainability and firms' actions through the mapping process, the present research aims to test the following:

Hypothesis 3 (H3). *There is a positive relationship between firms' propositions of sustainability-based advertising and consumer evaluations of firms' sustainability actions and behaviors.*

According to previous studies of the dimensions that influence consumer evaluations of firms' behaviors [65–67], another relevant dimension for defining consumers' cognitive frameworks for the evaluation of firms' sustainability actions and strategies is related to the amount of information that consumers can use to build an individual ranking of firms' plans (coding). Ref. [68] noted the importance for firms to provide updated information about their strategies and behaviors as a way to build and maintain a strong relationship with the market. Similarly, ref. [69] showed the impacts that firms' use of information and communication technologies for sharing updated information about ongoing actions, strategies and plans have on market perception and on firms' market shares. Accordingly, by supposing that firms' provisions of updated information about their sustainability actions and strategies via web pages supports consumers' coding processes, the following hypothesis is additionally investigated:

Hypothesis 4 (H4). *There is a positive relationship between firms' provisions of updated information about their sustainability actions and strategies via web pages, and consumer evaluations of firms' sustainability actions and behaviors.*

Finally, the validity of previous studies regarding the need for companies to involve consumers in their processes and actions to increase the opportunities for an effective reciprocal understanding has been recognized. Accordingly, building a conceptual framework which can explain the elements that affect consumer evaluations of firms' sustainability actions and behaviors also requires the consideration of consumer participation in firms' strategies, plans and projects (engagement). Ref. [14] showed that consumer evaluations of firms' sustainability emerge as a result of consumer interaction with the firms. Similarly, ref. [70] showed that consumer participation in sustainability actions promoted by firms improves consumer opinion regarding the firms. Accordingly, by stating that the numbers of firms' projects, plans, and strategies based on consumer participation enforce consumer engagement, the present study also aims to test the following hypothesis:

Hypothesis 5 (H5). *There is a positive relationship between the numbers of firms' projects, plans and strategies based on consumer participation, and consumer evaluations of firms' sustainability actions and behaviors.*

Having defined the way in which the listed set of identified cognitive influencers affects consumer perceptions about firms' sustainability, a final element is required to complete the theoretical framework for the evaluation of the relationships between consumers and SMEs within the sustainability domain. Specifically, it is necessary to clarify in which way consumer evaluations about firms' sustainability actions and behaviors affect firms' economic performance. To this end, ref. [12] demonstrated that firms' investments and attention to sustainability strategies and actions are positively related to the firms' economic performance, in terms of their total revenues. Similarly, ref. [71] showed that firms with a strong sustainable image have positive results in terms of selling performances, while [72] focused on the ways in which sustainability-based advertising programs increase companies' cross-selling.

Building upon these contributions, it is possible to hypothesize that firms' attention to sustainability actions, and more specifically consumer evaluations of firms' sustainability, is related to firm revenues. Thus, we state the following additional hypothesis:

Hypothesis 6 (H6). *There is a positive relationship between consumer evaluations of firms' sustainability and firms' revenues.*

3. Research Approach and Data Collection

This study adopts a quantitative approach, with the aim of adding to previous qualitative research about cognitive dimensions and supporting them with quantitative data and research processes.

The essential characteristic of quantitative analysis, which distinguishes it from qualitative analysis, is the formalism of the procedure: data collection, data processing, the use of matrixes and the use of statistics follow defined and replicable protocols [73]. In particular, SEM has been widely adopted for instrument validation and model testing in many fields, as in psychology research literature, to investigate a variety of problems [74]. According to [75], such kind of models have several advantages, as making explicit assumptions, constructs, and hypothesized relationships, permitting a more complete representation of complex theories, and providing a formal framework for constructing and testing both theories and measures. In the described context, a quantitative method, and the SEM in particular, can allow to estimate quantitatively the relationship among the abovementioned variables, such as the five cognitive dimensions related to the customers' perception of sustainable actions and behavior of companies (obtained by means of interviews) and the quantitative measures of performance of these companies (firms revenues, resulting from their balance sheets).

Specifically, this research adopts a double perspective investigation approach: on one side, the actions of a sample of companies in the sustainability domain are investigated using secondary data; and on another side, the evaluation of a sample of consumer opinions with respect to firms' sustainability is analyzed, via a direct survey in which a seven-point-based Likert scale is used for measuring consumer evaluations of firms' sustainability using the structured questionnaire as proposed by [76].

The firms included in the sample were selected from a dataset of Italian SMEs provided by AIDA [77]. From a total of 8596 SMEs from the Campania Region of Italy [78] a random sample of 175 SMEs was selected among the firms that had provided, between 2012 and 2017, voluntary information about their strategies and approaches in the field of sustainability (e.g., social reports, websites, advertising, etc.) and that had participated in sustainability projects, plans and strategies based on consumer participation, as detailed in Table 2.

Table 2. An overview of analyzed SMEs.

Sector	
Service	55
Industry	19
Manufacturing	47
Transport	25
Others	29
Number of Employees	
>10	89
10–30	48
30–50	38
Annual Revenues (Average for the Last 5 Years)	
<100.000 €	75
100.000€–250.000	69
>250.000 €	31
Activities Promoted with Reference to Sustainability	
Sharing of social reports or equivalent documents	75
Participation in sustainably organizations	81
Provision of advertising based on sustainability	29
Use of updated web pages for sharing information about sustainability actions and strategies	58
Numbers of sustainability projects, plans, and strategies based on consumers' participation	35

Specifically, the following Table 3 describes the sources/approaches that were us for measuring the activities promoted by the analyzed firms in the field of sustainability:

Table 3. Approach and data used for the study.

Firms' Activities with Reference to Sustainability	Approach	Data Used for the Study
Sharing of social reports or equivalent documents	Evaluation of documents published by each firms under investigation about the sustainability (i.e., Social Reports; Sustainability Report; Sustainability scorecard; Reports about the use of raw materials and energy; Reports about the resource management approach)	Total amount of documents Evaluation of documents published by each firms under investigation about the sustainability (i.e., Social Reports; Sustainability Report; Sustainability scorecard; Reports about the use of raw materials and energy; Reports about the resource management approach) in the period from 2012 to 2017.
Participation in sustainably organizations	Study of lists provided by the firms under investigations about their participations and/or membership in organizations interested in the achievement of sustainability aims.	Total amount of participations and/or membership in organizations interested in the achievement of sustainability aims in the period from 2012 to 2017.
Provision of advertising based on sustainability	Content analysis of all advertising documents and materials of firms under investigation. Specifically, the content was screened by checking the presence of the keywords addressed by the United Nation in 17 sustainable development goals defined [79].	Total amount of items that the firms under investigation have used the selected keywords in their advertising documents in the period from 2012 to 2017.
Use of updated web pages for sharing information about sustainability actions and strategies	Study of the official websites of firms under investigation with the aim to measure the total amount of information related to sustainability actions and strategies.	Total amount of information related to sustainability actions and strategies shared by the firms under investigation via web pages in the period from 2012 to 2017.
Numbers of sustainability projects, plans, and strategies based on consumers' participation	Study of lists provided by the firms under investigations about their sustainability project with a brief description of principal aims and development process.	Total amount of sustainability projects, plans, and strategies in which the companies have improved actions for enhancing and/or supporting consumer's participation in the period from 2012 to 2017.

The consumers sample group was composed of a random sample of customers of each selected SME. They were contacted using the email addresses provided by the selected firms and interviewed through an online platform using the structured questionnaire as proposed by [76] and a seven-point-based Likert scale to measure the total evaluation of consumers about firms' sustainability trough 15 items as detailed in the Appendix A.

A total of 1137 consumers were interviewed, from a total of 2893 survey requests that were sent between August 2017 and January 2018 (response rate: 39.30%). The main characteristics of the respondents are reported in Table 4.

Table 4. Principle features of respondents.

Sex	
Men	736
Female	391
Age	
18–25	148
26–40	269
41–60	689
>60	31
Annual Salary	
<30.000 €	719
30.000 €–50.000 €	340
>50.000 €	78
Level of Study	
Secondary school	208
High School	692
University	237

The construct validity was analyzed testing convergent validity and discriminant validity. Convergent validity was measured by calculating the average variance extracted (AVE), and discriminant validity was tested by comparing the square roots of the AVEs with the correlations between the constructs [80].

According to [81], the data were analyzed in two stages: measurement model (confirmatory factor analysis) and structural model (path analysis). Specifically, with reference to the structural model a construct validity test was conducted, and the following hypotheses were tested via SEM:

H1 (+)　Firms' participation in sustainability organizations → Consumer evaluations of firms' sustainability actions and behaviors;

H2 (+)　Firms' sharing of social reports or equivalent documents → Consumer evaluations of firms' sustainability actions and behaviors;

H3 (+)　Quantity of firms' sustainability-based advertising → Consumer evaluations of firms' sustainability actions and behaviors;

H4 (+)　Amount of information about sustainability actions and strategies shared by firms via web pages → Consumer evaluations of firms' sustainability actions and behaviors;

H5 (+)　Numbers of firms' projects, plans and strategies based on consumer participation → Consumer evaluations of firms' sustainability actions and behaviors

H6 (+)　Consumer evaluations about firms' sustainability → Firms' revenues.

Specifically, the mediator effect of Consumer evaluations of firms' sustainability actions and behaviors has been tested performing the Joint test of significance [82] through the use of R Project for Statistical Computing [83] and the RGKtk2 library [84].

Finally, according to [85], the fitness of the model reported in the following Figure 2 was evaluated using various fit indices, including chi-square (χ^2), degrees of freedom (df), chi-square-to-degree-of-freedom ratio (χ^2/df), goodness of fit index (GFI), normed fit index (NFI), comparative fit index (CFI), standardized root mean square residual (SRMSR) and root mean square error of approximation (RMSEA).
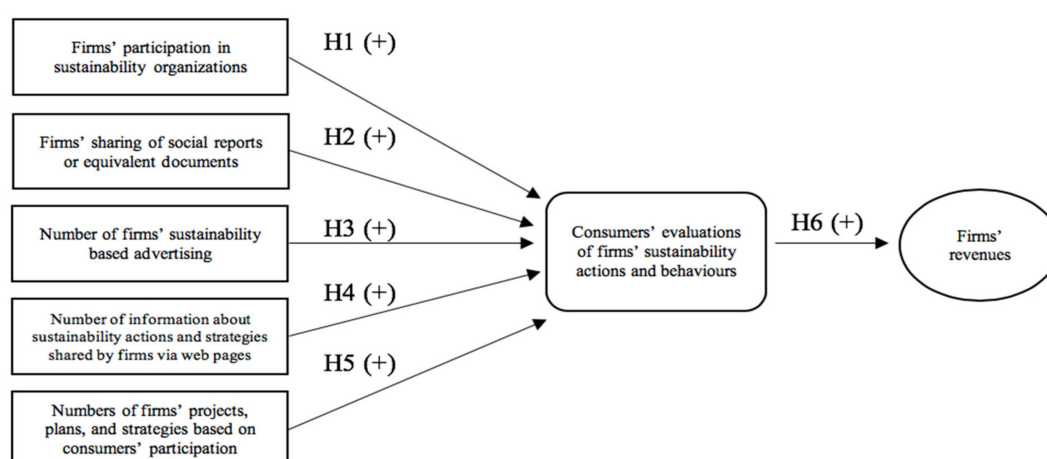

Figure 2. The Hypothesized Conceptual Model.

4. Results

With reference to the measurement model, the results reported in the following Table 5 showed that the square roots of the AVEs were all greater than their respective relationships, providing solid evidence of discriminant validity.

Table 5. Average Variance Extracted and relationships among the variables.

Independent Variables	AVEs	Firms' Participation in Sustainability Organizations	Firms' Sharing of Social Reports or Equivalent Documents	Amount of Firms' Sustainability-Based Advertising	Amount of Information about Sustainability Actions and Strategies Shared by Firms via Web Pages	Amount of Firms' Projects, Plans, and Strategies Based on Consumers' Participation
Firms' participation in sustainability organizations	0.56	0.75	-	-	-	-
Firms' sharing of social reports or equivalent documents	0.61	0.43 **	0.78	-	-	-
Amount of firms' sustainability-based advertising	0.59	0.61 **	0.39 **	0.77	-	-

Table 5. *Cont.*

Independent Variables	AVEs	Firms' Participation in Sustainability Organizations	Firms' Sharing of Social Reports or Equivalent Documents	Amount of Firms' Sustainability-Based Advertising	Amount of Information about Sustainability Actions and Strategies Shared by Firms via Web Pages	Amount of Firms' Projects, Plans, and Strategies Based on Consumers' Participation
Amount of information about sustainability actions and strategies shared by firms via web pages	0.60	0.29 **	−0.14 **	−0.09 **	0.77	-
Numbers of firms' projects, plans, and strategies based on consumers' participation	0.57	0.22 **	0.39 **	0.12 **	−0.07 **	0.75

Notes: On the diagonals are reported the square roots of the AVEs. ** Correlation is significant at the 0.01 level (two-tailed).

Moreover, the following Table 6 report the confirmatory factor analysis results.

Table 6. Confirmatory factor analysis results.

Independent Variables	Standardized Loading	Standard Error	R^2
Firms' participation in sustainability organizations	0.79	0.09	0.43
Firms' sharing of social reports or equivalent documents	0.83	0.07	0.57
Amount of firms' sustainability-based advertising	0.71	0.18	0.61
Amount of information about sustainability actions and strategies shared by firms via web pages	0.80	0.23	0.59
Numbers of firms' projects, plans, and strategies based on consumers' participation	0.89	0.09	0.68

Once reliability, the convergent validity, and the discriminant validity of data is verified, the mediator effect of Consumer evaluations of firms' sustainability actions and behaviors was tested performing the joint test of significance through the use of R Project for Statistical Computing and the RGKtk2 library. As reported in the following Table 7, the test shows that the power of mediator effect is higher than the direct effect among independent variables and firms' revenues.

Table 7. Test of mediator effect and power of relationships.

Relationships	Power
Firms' participation in sustainability organizations → firms' revenues	0.127
Firms' sharing of social reports or equivalent documents → firms' revenues	0.271
Amount of firms' sustainability-based advertising → firms' revenues	0.108
Amount of information about sustainability actions and strategies shared by firms via web pages → firms' revenues	0.091
Numbers of firms' projects, plans, and strategies based on consumers' participation → firms' revenues	0.007
Firms' participation in sustainability organizations → Consumer evaluations of firms' sustainability actions and behaviors	0.675
Firms' sharing of social reports or equivalent documents → Consumer evaluations of firms' sustainability actions and behaviors	0.584
Amount of firms' sustainability-based advertising → Consumer evaluations of firms' sustainability actions and behaviors	0.751
Amount of information about sustainability actions and strategies shared by firms via web pages → Consumer evaluations of firms' sustainability actions and behaviors	0.489
Numbers of firms' projects, plans, and strategies based on consumers' participation → Consumer evaluations of firms' sustainability actions and behaviors	0.619
Firms' participation in sustainability organizations → Consumer evaluations of firms' sustainability actions and behaviors → firms' revenues	0.837
Firms' sharing of social reports or equivalent documents → Consumer evaluations of firms' sustainability actions and behaviors → firms' revenues	0.917
Amount of firms' sustainability-based advertising → Consumer evaluations of firms' sustainability actions and behaviors → firms' revenues	0.875
Amount of information about sustainability actions and strategies shared by firms via web pages → Consumer evaluations of firms' sustainability actions and behaviors → firms' revenues	0.651
Numbers of firms' projects, plans, and strategies based on consumers' participation → Consumer evaluations of firms' sustainability actions and behaviors → firms' revenues	0.723

Lastly, focusing the attention on the structural model the hypotheses were tested via SEM using LISREL 9.10, and several model fit statistics were measured as shown in Table 6. These model fit statistics included GFI, NFI, CFI, SRMSR and RMSEA. The following cut-off values for the fitness indices were applied: >0.90 for GFI [86]; >0.90 for NFI [87]; >0.90 for CFI [88]; and a combinatorial rule of RMSEA<0.06 and SRMR<0.08 [89]. Based on an analysis of the data reported in Table 8, the model fit was found to exceed the conventional thresholds, indicating a good model fit for the data.

Table 8. Hypothesis Testing Results.

	Hypothesis	Standardized Regression Coefficient	*p*-Value
H_1 (+)	Firms' participation in sustainability organizations → Consumers' evaluations of firms' sustainability actions and behaviors	0.612	***
H_2 (+)	Firms' sharing of social reports or equivalent documents → Consumers' evaluations of firms' sustainability actions and behaviors	0.703	***
H_3 (+)	Amount of firms' sustainability-based advertising → Consumers' evaluations of firms' sustainability actions and behaviors	0.597	***
H_4 (+)	Amount of information about sustainability actions and strategies shared by firms via web pages → Consumers' evaluations of firms' sustainability actions and behaviors	0.312	0.711
H_5 (+)	Numbers of firms' projects, plans, and strategies based on consumers' participation → Consumers' evaluations of firms' sustainability actions and behaviors	0.712	0.081
H_6 (+)	Consumers' evaluation about firms' sustainability → Firms' revenues	0.602	***
	Model fit statistics:		
GFI = 0.907, NFI = 1.12, CFI = 0.932, RMSEA = 0.051, SRMR = 0.063			

Note: ***: Standardized regression coefficient is significant at the 0.001 level (two-tailed).

By analyzing the results reported in Table 5, it was determined that the hypotheses H_1 (β = 0.612, $p < 0.001$), H_2 (β = 0.703, $p < 0.001$), H_3 (β = 0.597, $p < 0.001$), H_5, (β = 0.712, p = 0.081) and H_6 (β = 0.602, $p < 0.001$) are supported, while H_4 (β = 0.312, p = 0.711) is not supported.

5. Discussion, Implications and Final Reflections

By adopting the interpretative lens provided by CCT and by contextualizing studies and contributions rooted in sociology, this paper formalizes five cognitive influencers in the definition of consumer evaluations of firms' sustainability actions. The relationships between the sustainability actions of SMEs, the performance of SMEs, and cognitive influencers is tested in a case study using SEM. This research demonstrated that four of the five identified cognitive influencers affect the way in which consumers build their perspectives and evaluations of firms' sustainability. Accordingly, this paper enriches previous managerial and marketing literature in the field of sustainability and validates the relevance of cognitive dimensions in organizational settings with reference to studies about sustainability [90].

More specifically, the empirical evidence presented in this study demonstrates a positive relationship between firms' participation in sustainability organizations and consumer evaluations of firms' sustainability actions and behaviors (**H1**). This result can be considered to be consistent with previous studies about the market perception of organized structures [91,92]. It is, therefore, possible to state that firms' participation in sustainability organizations is perceived by the market as a type of warranty about firms' engagement and attention in the management of sustainability issues [93]. From this perspective, it is possible to conjecture the existence of a positive "halo effect" which can influence consumer perspectives, building upon firms' participation in well-known structures in the field of sustainability. Considering the relevance of resilience as a cognitive influencer of consumer evaluations, this result underlines the need for firms to pay more attention to their activities and strategies. Moreover, it provides firms with an effective way to support consumers in building

a positive evaluation of firms' sustainability actions and behaviors, also if there are no previous positive data and/or experiences [94].

The present research also shows that there is a positive relationship between firms' sharing of social reports or equivalent documents and consumer evaluations of firms' sustainability actions and behaviors (**H2**). This result supports previous studies of consumer behavior [95], and underlines the relevance of voluntary information sharing as a way to influence consumer perspectives and their interactions with firms [67,96,97]. Based on this result, it is possible to conjecture that consumers' need for information should not be underestimated by firms, because the way in which the information required by the consumers is acquired influences their perception of the firms and their evaluation of firms' sustainability actions and behaviors [27,98,99].

The present research additionally shows that there is a positive relationship between the quantity of firms' sustainability-based advertising and consumer evaluations of firms' sustainability actions and behaviors (**H3**). This agrees with a previous study by [63], which showed that firms' advertising in the sustainability field had a positive impact on consumer perceptions of firms' behaviors. Similarly, ref. [100] emphasized the relevant role of firms' advertising in the sustainability domain in affecting consumer behavior and shopping decisions. By recognizing the validity of these contributions, it is possible to highlight the need for firms to plan coherent and effective communication flows which are also based on a correct use of advertising instruments in order to support consumers in building a positive evaluation of firms' sustainability actions and behaviors [101–104].

The present research furthermore shows the existence of a positive relationship between the numbers of firms' projects, plans and strategies involving consumer participation and consumer evaluations of firms' sustainability actions and behaviors (**H5**). This result is fully consistent with more general studies about the relevance of consumers' engagement in firms' actions to improving firms' economic performance and market shares [105–107]. With specific reference to the domain of sustainability, this result underlines the need for firms to constantly interact with consumers to ensure an effective understanding of firms' actions [108–110]. Similarly, ref. [110] stated that only through a direct interaction between firms and consumers is it possible to ensure an effective reciprocal understanding and correct evaluation of individual behaviors with reference to the sustainability conceptual umbrella.

Finally, the present empirical research shows that there is a positive relationship between consumer evaluations of firms' sustainability and firms' revenues (**H6**). This result can be considered to support previous conceptual contributions about the impact of firms' attention to the sustainability of their economic performance [111,112]. In line with this, ref. [113] state that sustainability is a complex of values, which allows firms the opportunity to align themselves with the market's expectations. Based on this result, it is possible to infer that firms should consider sustainability not only as a challenge, but as a relevant opportunity for improving their alignment to the market.

Not all the hypotheses proposed in the present study are supported. The empirical evidence shows that there is not a positive relationship between the amount of information related to sustainability actions and strategies shared by firms via web pages, and consumer evaluations of firms' sustainability actions and behaviors (**H4**). This result shows the complexity of the sustainability domain, and that it represents a bundle of constructs that cannot be easily communicated to the market [114–117]. According to [114], sustainability requires building new means of interaction between firms and consumers, and overcoming the traditional transactional view of the market to embrace a holistic view based on collaboration for the achievement of shared aims.

In summary, this paper demonstrates that the effects of firms' attention to sustainability and social relationships depend not only on the whole complex of actions, processes and programs in which firms are involved, but also on how they are perceived in terms of sustainability by society.

Within this context, sustainability offers firms the opportunity to reduce the cognitive distance between their strategies and the mental models and perceptions of consumers [118,119]. Accordingly,

firms should build upon the principles of sustainability to move from a "transactional view" of the market, to a "cognitive matching" with it [120–123].

Several implications can be derived from this work, from both a theoretical and practical point of view. This paper draws a link between managerial, marketing, and sociological studies, opening up to real multi- and trans-disciplinary research processes that can be applied with reference to all the domains in which human attitudes and perceptions are involved.

In this context, this paper enriches previous managerial knowledge about the rules and dynamics of relationships between consumers and firms in the context of sustainability [124]. However, more studies are needed to test the results stated here in different socioeconomic contexts and using different research approaches. For instance, a qualitative approach could be applied to test the empirical analysis, with the aim of better understanding the actions that firms should take to improve their economic performance while operating in accordance with sustainability principles.

Appendix A

Items adopted for measuring consumer evaluations of firms' sustainability actions and behaviors.
Please evaluate the following sentences measuring your level of agreement using a 7-point Likert scale in which 1 means strongly disagree and 7 means strongly agree.

Table A1. Survey for measuring consumer evaluations of firms' sustainability actions and behaviors

The firm is actively involved in the actions/plans proposed by sustainability organizations.	1 2 3 4 5 6 7
The firm is member of sustainability networks that I know.	1 2 3 4 5 6 7
I link the name of the firm to actions/plans promoted by well-known sustainability organizations.	1 2 3 4 5 6 7
The firm provides clear, useful, and updated information about its actions in the field of sustainability.	1 2 3 4 5 6 7
I know the actions promoted by the firm in the field of sustainability.	1 2 3 4 5 6 7
There is a connection between firms' advertising and the key concepts of sustainability.	1 2 3 4 5 6 7
Information about firms' actions in the field of sustainability is easily available.	1 2 3 4 5 6 7
The firm pay more attention in sharing its interest in the field of sustainability.	1 2 3 4 5 6 7
The firm proposes products/services that are sustainability-friendly.	1 2 3 4 5 6 7
The firm respects all the rules in the fields of environmental pollution, use of raw materials, use of energy, and human resources management.	1 2 3 4 5 6 7
The firm is not only interested in the profit but also in the achievement of sustainability aims.	1 2 3 4 5 6 7
In the last few years the firm has promoted actions in the field of sustainability.	1 2 3 4 5 6 7
The firm's aims and plans are aligned with the rules of sustainability.	1 2 3 4 5 6 7
The information I have about the firm suggests me that it is aligned with the sustainability principles.	1 2 3 4 5 6 7
The firm's image is coherent with my knowledge about the domain of sustainability.	1 2 3 4 5 6 7

References

1. Cooper, C.L. *Leadership and Management in the 21st Century: Business Challenges of the Future*; Oxford University Press: Oxford, UK, 2005.
2. Duygulu, E.; Ozeren, E.; Işıldar, P.; Appolloni, A. The sustainable strategy for small and medium sized enterprises: The relationship between mission statements and performance. *Sustainability* **2016**, *8*, 698. [CrossRef]
3. Teece, D.J. Firm organization, industrial structure, and technological innovation. *J. Econ. Behav. Organ.* **1996**, *31*, 193–224. [CrossRef]
4. Thompson, P.; Jones, M.; Warhurst, C. From conception to consumption: Creativity and the missing managerial link. *J. Organ. Behav.* **2007**, *28*, 625–640. [CrossRef]
5. Collins, D. *Organisational Change: Sociological Perspectives*; Routledge: London, UK, 2005.
6. Teece, D.J. Business models, business strategy and innovation. *Long Range Plan.* **2010**, *43*, 172–194. [CrossRef]
7. Aragon-Correa, J.A. Beyond Ourselves: Building Bridges to Generate Real Progress on Sustainability Management Issues. *Organ. Environ.* **2013**, *26*, 3–6. [CrossRef]

8. Pearce, D.W.; Atkinson, G.D. Capital theory and the measurement of sustainable development: An indicator of "weak" sustainability. *Ecol. Econ.* **1993**, *8*, 103–108. [CrossRef]

9. Klewitz, J.; Hansen, E.G. Sustainability-oriented innovation of SMEs: A systematic review. *J. Clean. Prod.* **2014**, *65*, 57–75. [CrossRef]

10. Sen, S.; Bhattacharya, C.B. Does doing good always lead to doing better? *Consumer reactions to corporate social responsibility. J. Mark. Res.* **2001**, *38*, 225–243.

11. Nyilasy, G.; Gangadharbatla, H.; Paladino, A. Perceived greenwashing: The interactive effects of green advertising and corporate environmental performance on consumer reactions. *J. Bus. Ethics* **2014**, *125*, 693–707. [CrossRef]

12. Epstein, M.J.; Roy, M.J. Sustainability in action: Identifying and measuring the key performance drivers. *Long Range Plan.* **2001**, *34*, 585–604. [CrossRef]

13. Schrettle, S.; Hinz, A.; Scherrer-Rathje, M.; Friedli, T. Turning sustainability into action: Explaining firms' sustainability efforts and their impact on firm performance. *Int. J. Prod. Econ.* **2014**, *147*, 73–84. [CrossRef]

14. Bhattacharya, C.B.; Sen, S. Consumer-company identification: A framework for understanding consumers' relationships with companies. *J. Mark.* **2003**, *67*, 76–88. [CrossRef]

15. Del Giudice, M.; Khan, Z.; De Silva, M.; Scuotto, V.; Caputo, F.; Carayannis, E. The micro-level actions undertaken by owner-managers in improving the sustainability practices of cultural and creative Small and Medium Enterprises: A UK-Italy Comparison. *J. Organ. Behav.* **2017**, *38*, 1396–1414. [CrossRef]

16. Colucci-Gray, L.; Camino, E.; Barbiero, G.; Gray, D. From scientific literacy to sustainability literacy: An ecological framework for education. *Sci. Educ.* **2006**, *90*, 227–252. [CrossRef]

17. Arnould, E.J.; Thompson, C.J. Consumer culture theory (CCT): Twenty Years Research. *J. Consum. Res.* **2005**, *31*, 868–882. [CrossRef]

18. Green, T.R.G.; Petre, M. Usability analysis of visual programming environments: A 'cognitive dimensions' framework. *J. Vis. Lang. Comput.* **1996**, *7*, 131–174. [CrossRef]

19. Corral-Verdugo, V.; Bonnes, M.; Tapia-Fonllem, C.; Fraijo-Sing, B.; Frías-Armenta, M.; Carrus, G. Correlates of pro-sustainability orientation: The affinity towards diversity. *J. Environ. Psychol.* **2009**, *29*, 34–43. [CrossRef]

20. Calic, G.; Mosakowski, E. Kicking off social entrepreneurship: How a sustainability orientation influences crowdfunding success. *J. Manag. Stud.* **2016**, *53*, 738–767. [CrossRef]

21. Barbier, E.B. The concept of sustainable economic development. *Environ. Conserv.* **1987**, *14*, 101–110. [CrossRef]

22. Goodland, R. The concept of environmental sustainability. *Annu. Rev. Ecol. Syst.* **1995**, *26*, 1–24. [CrossRef]

23. Lozano, R.; Huisingh, D. Inter-linking issues and dimensions in sustainability reporting. *J. Clean. Prod.* **2011**, *19*, 99–107. [CrossRef]

24. Sen, A. *A Survey of Sustainable Development: Social and Economic Dimensions*; Island Press: Washington, DC, USA, 2013; Volume 6.

25. Elkington, J. *Cannibals with Forks: The Triple Bottom Line of 21st Century Business*; Capstone: London, UK, 1997.

26. Carayannis, E.G. (Ed.) *Sustainable Policy Applications for Social Ecology and Development*; IGI Global: Hershey, PA, USA, 2012.

27. Crittenden, V.L.; Crittenden, W.F.; Ferrell, L.K.; Ferrell, O.C.; Pinney, C.C. Market-oriented sustainability: A conceptual framework and propositions. *J. Acad. Mark. Sci.* **2011**, *39*, 71–85. [CrossRef]

28. Mohr, L.A.; Webb, D.J.; Harris, K.E. Do consumers expect companies to be socially responsible? *The impact of corporate social responsibility on buying behavior. J. Consum. Aff.* **2001**, *35*, 45–72.

29. Gangale, F.; Mengolini, A.; Onyeji, I. Consumer engagement: An insight from smart grid projects in Europe. *Energy Policy* **2013**, *60*, 621–628. [CrossRef]

30. Schaltegger, S.; Lüdeke-Freund, F.; Hansen, E.G. Business models for sustainability: A co-evolutionary analysis of sustainable entrepreneurship, innovation, and transformation. *Organ. Environ.* **2016**, *29*, 264–289. [CrossRef]

31. Santillo, D. Reclaiming the Definition of Sustainability. *Environ. Sci. Pollut. Res.* **2007**, *14*, 60–66. [CrossRef]

32. Boons, F.; Lüdeke-Freund, F. Business models for sustainable innovation: State-of-the-art and steps towards a research agenda. *J. Clean. Prod.* **2013**, *45*, 9–19. [CrossRef]

33. Saviano, M.; Caputo, F. Managerial choices between Systems, Knowledge and Viability. In *Contributions to Theoretical and Practical Advances in Management. A Viable Systems Approach (VSA)*; Barile, S., Ed.; Aracne Editrice S.r.l.: Rome, Italy, 2013; pp. 219–242.

34. Barile, S.; Saviano, M.; Caputo, F. A systems view of customer satisfaction. In *National Conference "Excellence in Quality, Statistical Quality Control and Customer Satisfaction", University Campus "Luigi Einaudi"*; University of Turin: Turin, Italy, 2014.

35. Barile, S.; Saviano, M.; Caputo, F. How Are Markets Changing? The Emergence of Consumers Market Systems. In Proceedings of the 3rd International Symposium Advances in Business Management. "Towards Systemic Approach"; University of Perugia: Perugia, Italy, 2015.

36. Cova, B.; Dalli, D. Working consumers: The next step in marketing theory? *Mark. Theory* **2009**, *9*, 315–339. [CrossRef]

37. Polese, F.; Pels, J.; Tronvoll, B.; Bruni, R.; Carrubbo, L. A4A relationships. *J. Serv. Theory Pr.* **2017**, *27*, 1040–1056. [CrossRef]

38. Del Giudice, M.; Evangelista, F.; Palmaccio, M. Defining the Black and Scholes approach: A first systematic literature review. *J. Innov. Entrep.* **2015**, *5*, 1–13. [CrossRef]

39. Del Giudice, M.; Ahmad, A.; Scuotto, V.; Caputo, F. Influences of Cognitive Dimensions on the Collaborative Entry Mode Choice of Small and Medium-Sized Enterprises. *Int. Mark. Rev.* **2017**, *34*, 582–605. [CrossRef]

40. Goodwin, V.L.; Ziegler, L. A test of relationships in a model of organizational cognitive complexity. *J. Organ. Behav.* **1998**, *19*, 371–386. [CrossRef]

41. Barile, S.; Carrubbo, L.; Iandolo, F.; Caputo, F. From 'EGO' to 'ECO' in B2B relationships. *J. Bus. Mark. Manag.* **2013**, *6*, 228–253.

42. Saviano, M.; Parida, R.; Caputo, F.; Datta, S.K. Health care as a worldwide concern. Insights on the Italian and Indian health care systems and PPPs from a VSA perspective. *EuroMed J. Bus.* **2014**, *9*, 198–220.

43. Dalli, D.; Gistri, G. Consumption symbols at the cinema: Italian Masters' Movies (1945–1975). *Eur. Adv. Consum. Res.* **2006**, *7*, 586–592.

44. McAlexander, J.H.; Dufault, B.L.; Martin, D.M.; Schouten, J.W. The marketization of religion: Field, capital, and consumer identity. *J. Consum. Res.* **2014**, *41*, 858–875. [CrossRef]

45. Tillotson, J.; Martin, D.M. Myth-mediated branding. In *Consumer Culture Theory*; Thyroff, A.E., Belk, R.W., Eds.; Emerald Group Publishing: Bingley, UK, 2015; pp. 189–222.

46. De Mooij, M. *Consumer Behavior and Culture: Consequences for Global Marketing and Advertising*; Sage: Newcastle upon Tyne, UK, 2010.

47. Bloom, B.S. *Taxonomy of Educational Objectives. Vol. 1: Cognitive Domain*; McKay: New York, NY, USA, 1956.

48. Hoch, S.J.; Loewenstein, G.F. Time-Inconsistent Preferences and Consumer Self-Control. *J. Consum. Res.* **1991**, *17*, 492–507. [CrossRef]

49. Oliver, R.L. Cognitive, Affective, and Attribute Bases of the Satisfaction Response. *J. Consum. Res.* **1993**, *20*, 418–430. [CrossRef]

50. Schneider, W.; Shiffrin, R.M. Controlled and Automatic Human Information Processing: Detection, Search, and Attention. *Psychol. Rev.* **1977**, *84*, 1–66. [CrossRef]

51. Berkowitz, L. Towards a General Theory of Anger and Emotional Aggression: Implications of the Cognitive-Neoassociationistic Perspective for the Analysis of Anger and Other Emotions. In *Hillsdale Advances in Social Cognition*; Wyer, R.S., Srull, T.K., Eds.; Erlbaum: Mahwah, NJ, USA 1993; Volume 6, pp. 1–46.

52. Shiv, B.; Fedorikhin, A. Heart and mind in conflict: The interplay of affect and cognition in consumer decision making. *J. Consum. Res.* **1999**, *26*, 278–292. [CrossRef]

53. Bleischwitz, R. Cognitive and institutional perspectives of eco-efficiency. *Ecol. Econ.* **2003**, *46*, 453–467. [CrossRef]

54. Lourdel, N.; Gondran, N.; Laforest, V.; Brodhag, C. Introduction of sustainable development in engineers' curricula: Problematic and evaluation methods. *Int. J. Sustain. High. Educ.* **2005**, *6*, 254–264. [CrossRef]

55. Coenen, L.; López, F.J.D. Comparing systems approaches to innovation and technological change for sustainable and competitive economies: An explorative study into conceptual commonalities, differences and complementarities. *J. Clean. Prod.* **2010**, *18*, 1149–1160. [CrossRef]

56. Gond, J.P.; Grubnic, S.; Herzig, C.; Moon, J. Configuring management control systems: Theorizing the integration of strategy and sustainability. *Manag. Account. Res.* **2012**, *23*, 205–223. [CrossRef]

57. Green, T.; Blackwell, A. Cognitive Dimensions of Information Artefacts: A Tutorial. 1998. Available online: https://aida.bvdinfo.com (accessed on 21 January 2017).

58. Lambert, A.J.D.; Boons, F.A. Eco-industrial parks: Stimulating sustainable development in mixed industrial parks. *Technovation* **2002**, *22*, 471–484. [CrossRef]

59. Hart, S.L.; Milstein, M.B. Creating sustainable value. *Acad. Manag. Perspect.* **2003**, *17*, 56–67. [CrossRef]

60. Alba, J.W.; Hutchinson, J.W. Dimensions of consumer expertise. *J. Consum. Res.* **1987**, *13*, 411–454. [CrossRef]

61. Caputo, F.; Giudice, M.D.; Evangelista, F.; Russo, G. Corporate disclosure and intellectual capital: The light side of information asymmetry. *Int. J. Manag. Financ. Account.* **2016**, *8*, 75–96. [CrossRef]

62. Robèrt, K.H.; Schmidt-Bleek, B.; De Larderel, J.A.; Basile, G.; Jansen, J.L.; Kuehr, R.; Wackernagel, M. Strategic sustainable development—Selection, design and synergies of applied tools. *J. Clean. Prod.* **2002**, *10*, 197–214. [CrossRef]

63. Wagner, M. The role of corporate sustainability performance for economic performance: A firm-level analysis of moderation effects. *Ecol. Econ.* **2010**, *69*, 1553–1560. [CrossRef]

64. Choi, S.; Ng, A. Environmental and economic dimensions of sustainability and price effects on consumer responses. *J. Bus. Ethics* **2011**, *104*, 269–282. [CrossRef]

65. Creyer, E.H. The influence of firm behavior on purchase intention: Do consumers really care about business ethics? *J. Consum. Mark.* **1997**, *14*, 421–432. [CrossRef]

66. Boulstridge, E.; Carrigan, M. Do consumers really care about corporate responsibility? Highlighting the attitude—Behaviour gap. *J. Commun. Manag.* **2000**, *4*, 355–368. [CrossRef]

67. Van Doorn, J.; Lemon, K.N.; Mittal, V.; Nass, S.; Pick, D.; Pirner, P.; Verhoef, P.C. Customer engagement behavior: Theoretical foundations and research directions. *J. Serv. Res.* **2010**, *13*, 253–266. [CrossRef]

68. De Bruyn, A.; Lilien, G.L. A multi-stage model of word-of-mouth influence through viral marketing. *Int. J. Res. Mark.* **2008**, *25*, 151–163. [CrossRef]

69. Rivard, S.; Raymond, L.; Verreault, D. Resource-based view and competitive strategy: An integrated model of the contribution of information technology to firm performance. *J. Strat. Inf. Syst.* **2006**, *15*, 29–50. [CrossRef]

70. Prothero, A.; Dobscha, S.; Freund, J.; Kilbourne, W.E.; Luchs, M.G.; Ozanne, L.K.; Thøgersen, J. Sustainable consumption: Opportunities for consumer research and public policy. *J. Public Policy Mark.* **2011**, *30*, 31–38. [CrossRef]

71. Roberts, P.W.; Dowling, G.R. Corporate reputation and sustained superior financial performance. *Strat. Manag. J.* **2002**, *23*, 1077–1093. [CrossRef]

72. Savitz, A. *The Triple Bottom Line: How Today's Best-Run Companies Are Achieving Economic, Social and Environmental Success—And How You Can too*; John Wiley & Sons: New York, NY, USA, 2013.

73. Bryman, A. Integrating quantitative and qualitative research: How is it done? *Qual. Res.* **2006**, *6*, 97–113. [CrossRef]

74. MacCallum, R.C.; Austin, J.T. Applications of structural equation modeling in psychological research. *Annu. Rev. Psychol.* **2000**, *51*, 201–226. [CrossRef] [PubMed]

75. Bagozzi, R.P. *Causal Models in Marketing*; John Wiley: New York, NY, USA, 1980.

76. Calik, E.; Bardudeen, F. A measurement scale to evaluate sustainable innovation performance in manufacturing organizations. *Procedia CIRP* **2016**, *40*, 449–454. [CrossRef]

77. AIDA. Aida, Analisi Informatizzata delle Aziende Italiane. 2016. Available online: https://aida.bvdinfo.com (accessed on 10 February 2018).

78. Confidustria. *Rapporto PMI Mezzogiorno 2015*; Editore SIPI: Roma, Italy, 2015.

79. United Nations. About the Sustainable Development Goals. Available online: https://www.un.org/sustainabledevelopment/sustainable-development-goals/ (accessed on 13 December 2017).

80. Fornell, C.; Larcker, D.F. Evaluating structural equation models with unobservable variables and measurement error. *J. Mark. Res.* **1981**, *18*, 39–50. [CrossRef]

81. Hair, J.F.; Ringle, C.M. Sarstedt MPLS-SEM: Indeed a silver bullet. *J. Mark. Theory Pr.* **2011**, *19*, 139–152. [CrossRef]

82. Fritz, M.S.; MacKinnon, D.P. Required sample size to detect the mediated effect. *Psychol. Sci.* **2007**, *18*, 233–239. [CrossRef] [PubMed]

83. The R Project for Statistical Computing. Available online: https://www.r-project.org/ (accessed on 6 August 2017).

84. Library (RGtk2). Available online: http://www.davidakenny.net/progs/PowMedR.txt (accessed on 21 September 2018).

85. Hancock, G.R.; Mueller, R.O. (Eds.) *Structural Equation Modeling: A Second Course*; IAP: London, UK, 2013.

86. Jöreskog, K.G.; Sörbom, D. *PRELIS 2 User's Reference Guide: A Program for Multivariate Data Screening Data Summarization: A Preprocessor for LISREL*; Scientific Software International: Skokie, IL, USA, 1996.

87. Hu, L.T.; Bentler, P.M. Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Struct. Equ. Model. Multidiscip. J.* **1999**, *6*, 1–55. [CrossRef]

88. Hoe, S.L. Issues and procedures in adopting structural equation modeling technique. *J. Appl. Quant. Methods* **2008**, *3*, 76–83.

89. Hooper, D.; Coughlan, J.; Mullen, M. *Structural Equation Modelling: Guidelines for Determining Model Fit*; Dublin Institute of Technology: Dublin, Ireland, 2008.

90. Allinson, C.W.; Hayes, J. The cognitive style index: A measure of intuition-analysis for organizational research. *J. Manag. Stud.* **1996**, *33*, 119–135. [CrossRef]

91. Vorhies, D.W.; Morgan, N.A. A configuration theory assessment of marketing organization fit with business strategy and its relationship with marketing performance. *J. Mark.* **2003**, *67*, 100–115. [CrossRef]

92. Olson, E.M.; Slater, S.F.; Hult, G.T.M. The performance implications of fit among business strategy, marketing organization structure, and strategic behavior. *J. Mark.* **2005**, *69*, 49–65. [CrossRef]

93. Caputo, F.; Evangelista, F. Information sharing and cognitive involvement for sustainable workplaces. In *Corporate Social Responsibility: Concepts, Methodologies, Tools, and Applications*; IGI Global: Hershey, PA, USA, 2019; pp. 1403–1420.

94. León-Soriano, R.; Jesús Muñoz-Torres, M.; Chalmeta-Rosalen, R. Methodology for sustainability strategic planning and management. *Ind. Manag. Data Syst.* **2010**, *110*, 249–268. [CrossRef]

95. Ashley, C.; Noble, S.M.; Donthu, N.; Lemon, K.N. Why customers won't relate: Obstacles to relationship marketing engagement. *J. Bus. Res.* **2011**, *64*, 749–756. [CrossRef]

96. Choongo, P. A longitudinal study of the impact of corporate social responsibility on firm performance in SMEs in Zambia. *Sustainability* **2017**, *9*, 1300. [CrossRef]

97. Polese, F.; Carrubbo, L.; Bruni, R.; Caputo, F. Enabling actors' viable behaviour: Reflections upon the link between viability and complexity within smart service system. *Int. J. Mark. Bus. Syst.* **2018**, *3*, 111–120. [CrossRef]

98. Caputo, F.; Buhnova, B.; Walletzky, L. Investigating the Role of Smartness for Sustainability: Insights from the Smart Grid Domain. *Sustain. Sci.* **2018**. [CrossRef]

99. Caputo, F.; Evangelista, F.; Russo, G. The role of Information sharing and communication strategies for improving stakeholder engagement. In *Business Models for Strategic Innovation: Cross-Functional Perspectives*; Vrontis, D., Weber, Y., Tsoukatos, V., Shams, R., Eds.; Routledge: London, UK, 2018; pp. 25–43.

100. Rahbar, E.; Abdul Wahid, N. Investigation of green marketing tools 'effect on consumers' purchase behavior. *Bus. Strat. Ser.* **2011**, *12*, 73–83. [CrossRef]

101. Perrini, F.; Tencati, A. Sustainability and stakeholder management: The need for new corporate performance evaluation and reporting systems. *Bus. Strat. Environ.* **2006**, *15*, 296–308. [CrossRef]

102. Van Riel, C.B.; Fombrun, C.J. *Essentials of Corporate Communication: Implementing Practices for Effective Reputation Management*; Routledge: London, UK, 2007.

103. Polese, F.; Caputo, F.; Carrubbo, L.; Sarno, D. The value (co)creation as peak of social pyramid. In *Proceedings of the 26th Annual RESER Conference, "What's Ahead in Service Research: New Perspectives for Business and Society"*; Russo-Spena, T., Mele, C., Eds.; RESER, University of Naples "Federico II": Naples, Italy, 2016; pp. 1232–1248.

104. Akaka, M.A.; Schau, H.J.; Vargo, S.L. The co-creation of value in cultural context. In *Consumer Culture Theory*; Belk, R., Ed.; Emerald Group Publishing: Bingley, UK, 2013; pp. 265–284.

105. Calabrese, M.; Iandolo, F.; Caputo, F.; Sarno, D. From mechanical to cognitive view: The changes of decision making in business environment. In *Social Dynamics in a System Perspective*; Barile, S., Pellicano, M., Polese, F., Eds.; Springer: New York, NY, USA, 2017; pp. 223–240.

106. Saviano, M.; Barile, S.; Spohrer, J.; Caputo, F. A service research contribution to the global challenge of sustainability. *J. Serv. Theory Pr.* **2017**, *27*, 951–976. [CrossRef]

107. Gupta, S.; Kumar, V. Sustainability as corporate culture of a brand for superior performance. *J. World Bus.* **2013**, *48*, 311–320. [CrossRef]

108. Carayannis, E.G.; Sindakis, S.; Walter, C. Business model innovation as lever of organizational sustainability. *J. Technol. Transf.* **2015**, *40*, 85–104. [CrossRef]

109. Polese, F.; Carrubbo, L.; Bruni, R.; Maione, G. The viable system perspective of actors in eco-systems. *TQM J.* **2017**, *29*, 783–799. [CrossRef]

110. Caputo, F. A focus on company-stakeholder relationships in the light of the Stakeholder Engagement framework. In *Innovation, Entrepreneurship and Digital Ecosystems*; Vrontis, D., Weber, Y., Tsoukatos, E., Eds.; EuroMed Press: Cyprus, Nicosia, 2016; pp. 455–470.

111. Marchi, V.D.; Maria, E.D.; Micelli, S. Environmental strategies, upgrading and competitive advantage in global value chains. *Bus. Strat. Environ.* **2013**, *22*, 62–72. [CrossRef]

112. Goyal, P.; Rahman, Z.; Kazmi, A.A. Corporate sustainability performance and firm performance research: Literature review and future research agenda. *Manag. Decis.* **2013**, *51*, 361–379. [CrossRef]

113. Carayannis, E.G.; Grigoroudis, E.; Sindakis, S.; Walter, C. Business model innovation as antecedent of sustainable enterprise excellence and resilience. *J. Knowl. Econ.* **2014**, *5*, 440–463. [CrossRef]

114. Scuotto, V.; Morellato, M. Entrepreneurial Knowledge and Digital Competence: Keys to Success for Student Entrepreneurship. *J. Knowl. Econ.* **2013**, *4*, 293–303. [CrossRef]

115. Del Giudice, M.; Della Peruta, M.R.; Scuotto, V. Student Entrepreneurship, Creativity and Success. How Much does Knowledge Heterogeneity Really Matter? *Int. J. Entrep. Innov. Manag.* **2014**, *18*, 45–58.

116. Di Nauta, P.; Merola, B.; Caputo, F.; Evangelista, F. Reflections on the Role of University to Face the Challenges of Knowledge Society for the Local Economic Development. *J. Knowl. Econ.* **2018**, *9*, 180–198. [CrossRef]

117. Ahammad, M.F.; Tarba, S.Y.; Liu, Y.; Glaister, K.W. Knowledge transfer and cross-border acquisition performance: The impact of cultural distance and employee retention. *Int. Bus. Rev.* **2016**, *25*, 66–75. [CrossRef]

118. Saviano, M.; Caputo, F.; Mueller, J.; Belyaeva, Z. Competing through consonance: A stakeholder engagement view of corporate relational environment. *Sinergie Ital. J. Manag.* **2018**, *105*, 63–82.

119. Golinelli, G.M.; Barile, S.; Saviano, M.; Polese, F. Perspective Shifts in Marketing: Toward a Paradigm Change? *Serv. Sci.* **2012**, *4*, 121–134. [CrossRef]

120. Amendola, C.; Calabrese, M.; Caputo, F.; D'ascenzo, F. Fashion companies and customer satisfaction: A relation mediated by Information and Communication Technologies. *J. Retail. Consum. Serv.* **2018**, *43*, 251–257. [CrossRef]

121. Hahn, T.; Preuss, L.; Pinkse, J.; Figge, F. Cognitive frames in corporate sustainability: Managerial sensemaking with paradoxical and business case frames. *Acad. Manag. Rev.* **2014**, *39*, 463–487. [CrossRef]

122. Suh, C.J.; Lee, I.T. An Empirical Study on the Manufacturing Firm's Strategic Choice for Sustainability in SMEs. *Sustainability* **2018**, *10*, 572.

123. Barile, S.; Saviano, M.; Iandolo, F.; Calabrese, M. The viable systems approach and its contribution to the analysis of sustainable business behaviors. *Syst. Res. Behav. Sci.* **2014**, *31*, 683–695. [CrossRef]

124. Barile, S.; Saviano, M.; Polese, F.; Caputo, F. T-Shaped People for addressing the Global Challenge of Sustainability. In *Service Dominant Logic, Network and Systems Theory and Service Science: Integrating Three Perspectives for a New Service Agenda*; Gummesson, E., Mele, C., Polese, F., Eds.; Giannini: Napoli, Italy, 2015.